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EXAMINER

MINSKEY, JACOB T

ART UNIT	PAPER NUMBER
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1791

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/553,075	Applicant(s) WIESE ET AL.	
	Examiner JACOB T. MINSKEY	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-46 is/are rejected.
- 7) ☒ Claim(s) 34-36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. The Examiner acknowledges the cancellation of claims 1-24, and the presentation of new claims 25-46.
2. Applicant's arguments filed 04/09/2009 have been fully considered but they are not persuasive.
3. Applicant traverses the Examiner's combination of Xue in view of Nelson, by arguing that a skilled artisan would not have been motivated to combine the references to teach the use of coated or sized paper in the Xue method. Applicant argues that such motivation would consist of hindsight reasoning because Nelson teaches away from the use of inorganic solid pigments. The Examiner respectfully disagrees.
4. The Applicant's citations of Nelson (column 1 lines 45-59) are correct in that they teach that Nelson has created a preferred method of producing high gloss paper that is different than the use of inorganic solid pigments, but Nelson does teach that the use of inorganic solid pigments is the conventional method. Nelson details how finely divided inorganic solids has been used in the past as a high glossing agent to solve the same problem, and even cites prior art in which the inorganic solid pigments are partially replaced with thermoplastic materials similar to his preferred embodiment. Nelson's preferred embodiment of gloss additives without inorganic pigments does not teach away from their use as argued by the Applicant. Nelson is simply providing what he considers an improvement to the old process, not a teaching away from it. One of

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ordinary skill in the art would understand that the use of inorganic pigments as high gloss agents have been used in the past as either the majority (conventional art) in part (the prior art of Heiser, USP 3,779,800 referenced provided by Nelson) or not at all (the preferred embodiment of Nelson).

5. "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." *In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

6. The rejection in the previous Office Action relied on Nelson to teach that a coated or sized paper can be treated in order to obtain a high gloss product. This aspect is clearly taught. Xue teaches that the dispersion can be used to coat paper (column 18 line 10) but does not explicitly teach that the paper is treated or sized prior to treatment (Xue does inherently teach the addition of starch as a neutral protective colloid, column 9 line 12 which would read on the limitation of a sizing agent). The combination of references is to clarify that a coated paper can be treated with an aqueous dispersion, and that is clearly taught by the combination of Xue and Nelson.

7. Applicant further argues that Nelson teaches that the use of inorganic solid pigments would constitute additional operation steps of super calendering. The Examiner takes the stance that even if these additional steps are added to the process, the references would still read on the claimed invention due to the use of the transitional phrase "comprising," which is open ended (MPEP 2111.03).

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8. Applicant further argues that the combination of Nelson and Xue would not achieve the claimed invention due to a showing on unexpected results. Applicant argues that there is an increase of Dry Picking Resistance, Wet Picking Resistance, and Picking Resistance from their claimed method over the conventional examples.

9. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., Picking Resistance) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

10. Finally, Applicant argues that the statutory double patenting rejection of claim 3 is improper because USP 7,094,830 does not teach the same invention. Applicant argues that the instant application is directed to a method of treating a "paper selected from the group consisting of a coated paper and a sized paper." The addition of this new limitation to the independent claim overcomes the **statutory** double patenting rejection.

11. New grounds of rejection, necessitated by the amendments, are presented in the following section.

Claim Objections

12. Claims 34-36 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s)

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in proper dependent form, or rewrite the claim(s) in independent form. Claims 34-36 all depend from claim 15 which has been canceled. For purposes of continued examination the Examiner is assuming that the claims depend on claim 25.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claims 25-27, 30-34, 36-37, 40-44, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xue et al, WO 03/000760 A1 as represented by its English equivalent USP 7,094,830 B2 in view of Nelson, USP 4,198,471.

17. Regarding claim 25, Xue et al teach a process for the treatment of paper surfaces (column 18 line 10), wherein the surface of the paper is coated with particles (composite particles) which are composed of polymer and finely divided inorganic solid, the weight average particle size of the finely divided inorganic solid being ≤ 100 nm (column 4 lines 3-9 and 26-27).

18. Regarding claim 25, Xue remains as applied previously, and while teaches the use of the solution to treat paper (column 18 line 10), Xue does not explicitly teach that the paper used is a coated or sized paper.

19. In the same field of endeavor of treating paper, Nelson teaches that the paper treated by an aqueous solution including inorganic partials is a coated or sized paper (sized, column 4 line 12).

20. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Nelson's use of a sized paper in the Xue method for the benefit of treating a paper that has been sized to control the paper's water absorbency and printability.

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21. Regarding claim 26, Xue further teaches that the composite particles are applied in the form of aqueous composite particle dispersion to the paper (column 4 lines 10-19 and column 18 line 10).

22. Regarding claim 27, Xue further teaches that the aqueous composite particle dispersion was prepared by a process in which at least one ethylenically unsaturated monomer is dispersed in an aqueous medium and polymerized by means of at least one free radical polymerization initiator in the presence of at least one dispersed, finely divided inorganic solid and at least one dispersant by the aqueous free radical emulsion polymerization method (column 4 lines 10-19), a) a stable aqueous dispersion of the at least one inorganic solid being used, which dispersion, with an initial solids concentration of $> 1\%$ by weight, based on the aqueous dispersion of the at least one inorganic solid, still contains more than 90% by weight of the originally dispersed solid in dispersed form one hour after its preparation and whose dispersed solid particles have a weight average diameter of ≤ 100 nm (see column 4 lines 20-27), b) the disperse solid particles of the at least one inorganic solid having an electrophoretic mobility which differs from zero (nonzero, column 4 line 29) in an aqueous standard potassium chloride solution at a pH which corresponds to the pH of the aqueous dispersing medium before the beginning of the addition of the dispersants (column 4 lines 28-32), c) at least one anionic, cationic and nonionic dispersant being added to the aqueous solid particle dispersion before the beginning of the addition of the at least one ethylenically unsaturated monomer (column 4 lines 33-36), adding the at least one free-radical polymerization initiator and 0.01 to 30% by weight of the total amount of the at least one

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ethylenically unsaturated monomer present within the aqueous emulsion polymerization mixture (inherent form claim 1) and polymerizing to a conversion of at least 90% (column 4 lines 37-40) and e) the remaining amount of the at least one monomer then being added continuously under polymerization conditions at the rate at which it is consumed (column 4 lines 41-43).

23. Regarding claims 30 and 40, Nelson teaches that the paper treated by an aqueous solution including inorganic partials is a sized paper (sized, column 4 line 12).

24. Regarding claims 31 and 41, Xue further teaches that the finely divided inorganic solid is at least one selected from the group consisting of silica, alumina, hydrated aluminum oxide, calcium carbonate, magnesium carbonate, calcium orthophosphate, magnesium orthophosphate, iron(II) oxide, iron(III) oxide, iron(II/III) oxide, tin oxide, cerium dioxide, yttrium(III) oxide, titanium dioxide, hydroxyapatite, zinc oxide and zinc sulfide (column 5 line 4 – column 6 line 22).

25. Regarding claims 32 and 42, Xue further teaches that the polymer can be formed into a film (column 17, line 63).

26. Regarding claims 33 and 43, Xue further teaches that the treated paper is subjected to pressures and/or temperatures such that the polymer forms a film (column 16 line 15 and column 18 line 10).

27. Regarding claims 34, 36, 44, and 46, these claims are product by process claims, see MPEP § 2113. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself (i.e., differences in product characteristics), and not on its method of production. In the

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present instance, all that is claimed is a paper, which is shown by Xue (column 18 line 10). Alternatively, Nelson teaches a sized paper that has been treated which will also read on the limitation of a sized or coated paper that is manufactured.

28. Regarding claim 37, Xue teaches a method of coating paper (column 18 line 10) comprising utilizing an aqueous dispersion which is obtained by mixing an aqueous polymer dispersion with at least one dispersed, finely divided inorganic solid which has a weight average particle diameter of 100 nm (column 4 lines 48-59).

29. Claims 28, 35, 38, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xue et al, WO 03/000760 A1 as represented by its English equivalent USP 7,094,830 B2 in view of Nelson, USP 4,198,471 and in further view of Auhorn et al, USP 4,908,240.

30. Regarding claims 28 and 38, Xue remains as applied previously, and while teaches the use of the solution to treat paper (column 18 line 10), Xue does remain silent on the ratios of solution to product to use in the treatment.

31. In the same field of endeavor of treating paper, Auhorn et al teach that the amount of composite particles or of a mixture of dispersion polymer and finely divided inorganic solid is from 0.1 to 100 g/m² of paper (0.5-4, abstract and claim 1).

32. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Auhorn's ratios in the Xue method for the benefit of using a smaller amount of solution to produce a lighter paper with good printability (column 9 lines 3-8).

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33. Regarding claims 35 and 45, Xue remains as applied previously, and while teaches the use of the solution to treat paper (column 18 line 10), Xue does not explicitly teach that the method of printing paper in the offset, flexographic and gravure printing process.

34. In the same field of endeavor of treating paper, Auhorn et al teach that the method of printing paper in the offset, flexographic and gravure printing process (coated papers, column 9 line 20).

35. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Auhorn's use of the offset printing process in the Xue method for the benefit of processing the paper in a the common and known methods for producing a smooth paper that can be used for a wide variety of purposes.

36. Claims 29 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xue et al, WO 03/000760 A1 as represented by its English equivalent USP 7,094,830 B2 in view of Nelson, USP 4,198,471 and in further view of Majumdar et al, USP 6,346,370 B1.

37. Regarding claims 29 and 39, the prior art is silent on that the paper is coated prior to treatment (the previous combination of references teaches sized).

38. In the same field of endeavor of treating paper with finely divided solid inorganic particles, Majumdar et al teaches treating a polypropylene coated photographic paper with finely divided solid inorganic solution (column 6 line 60).

39. It would have been obvious to one of ordinary skill in the art at the time of the invention that the process taught by Xue can be performed on a coated paper as shown

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by Majumdar for the benefit of utilizing a wide variety of starting materials to expand the impact of the invention to various paper markets.

Double Patenting

40. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

41. Claim 27 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 7,094,830. Although the conflicting claims are not identical, they are not patentably distinct from each other because the only difference is the newly added limitation of treating a coated or sized paper in the instant application. It would have been obvious to one of ordinary skill in the art at the time of the invention that dispersion of USP 7,094,830 could have been used to treat a coated or sized paper for the benefit of using the dispersion for a wide

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range of starting materials that can be interchanged without changing the process. This will increase the number of final products that can be created without changing the actual method of treatment. The use of a known material of either a coated paper or sized paper as the starting material is an obvious variation.

Conclusion

42. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JACOB T. MINSKEY whose telephone number is

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(571)270-7003. The examiner can normally be reached on Monday to Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JTM

/Eric Hug/
Primary Examiner, Art Unit 1791